

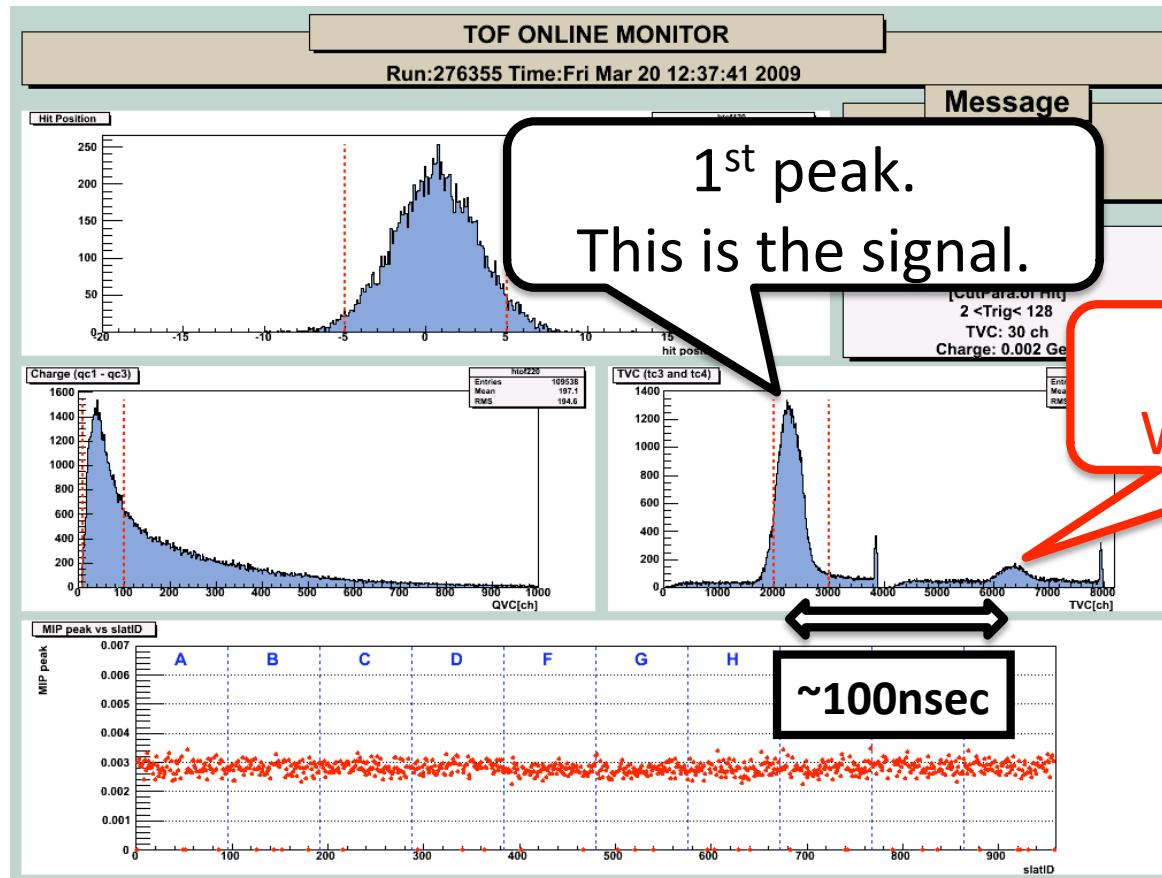
About 2nd peak in TOF.E monitor

University of Tsukuba

Masato Sano

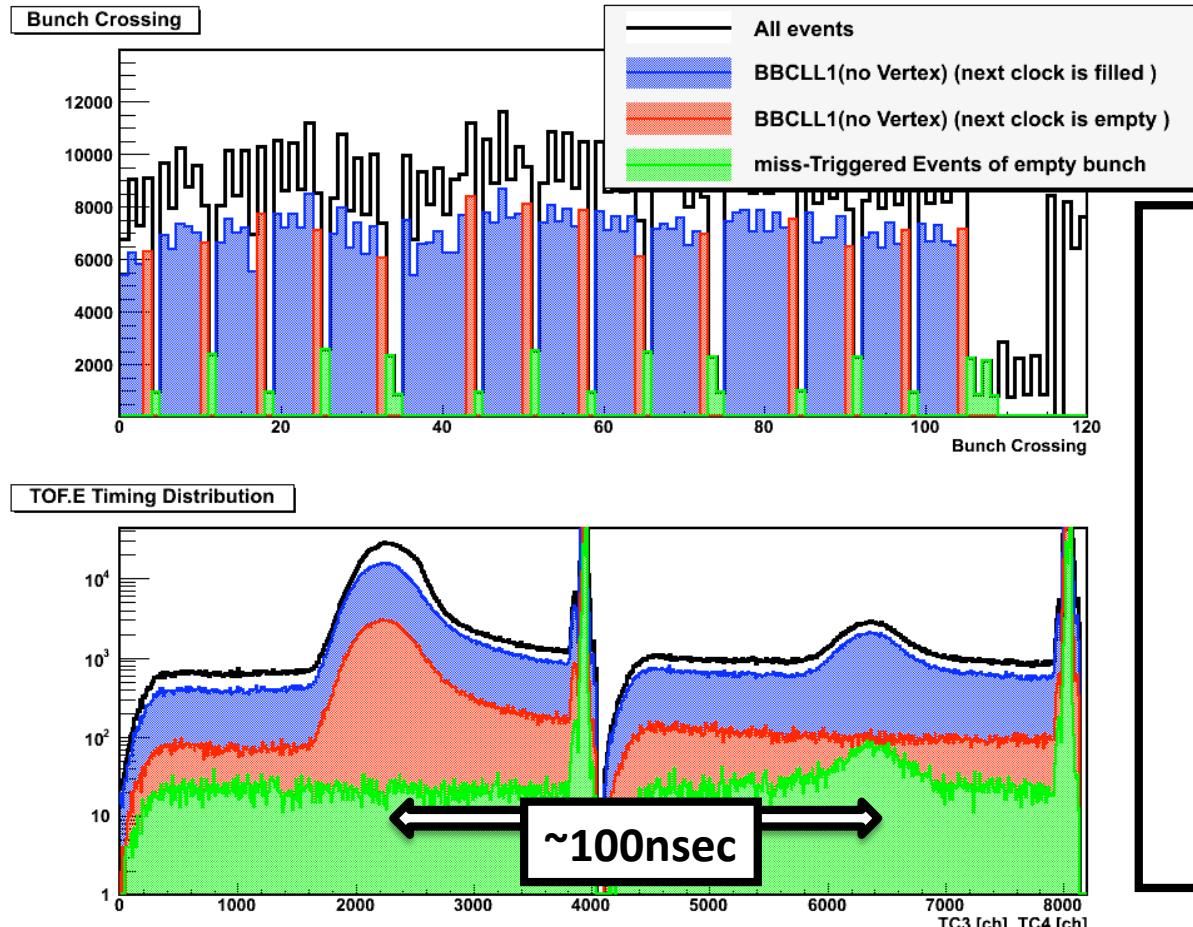
Mar./20th/2009

TOF.E online monitor



- We have the 2nd peak in timing distribution.
- What cause this peak??
 - The interval between 1st and 2nd peak is about 100nsec.
~bunch crossing time (106nsec)

Contents of timing distribution



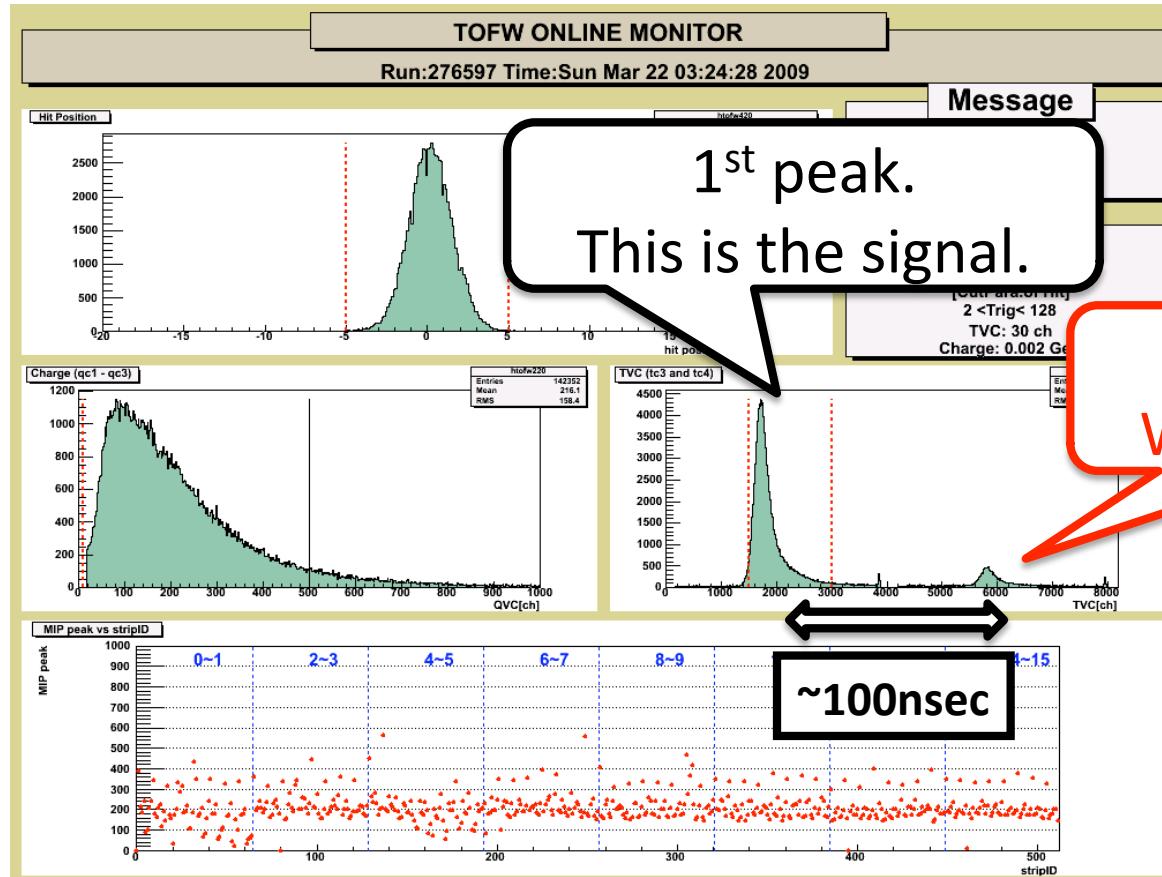
Run 276528 is analyzed
Mar. 21st 2009, physics data

All events
BBCLL1 triggered events
which have a bunch
in the next clock.
BBCLL1 triggered events
which have no bunch
in the next clock.
miss-Triggered events in
“Empty” bunch.

- Upper fig. is the Bunch Crossing. There is an empty bunch in every 7-8 bunches.
- Bottom fig. is timing distribution.
- If you select the events which have a bunch in the next clock, there is 2nd peak (blue & green).
- If you select the events which have no bunch in the next clock, there is no 2nd peak (red).
- Because the luminosity in run9 is higher than the one in previous run(i.e. run8, run7, run6 ...), the probability which the collisions occur for the second time in a row is high.

Back Up

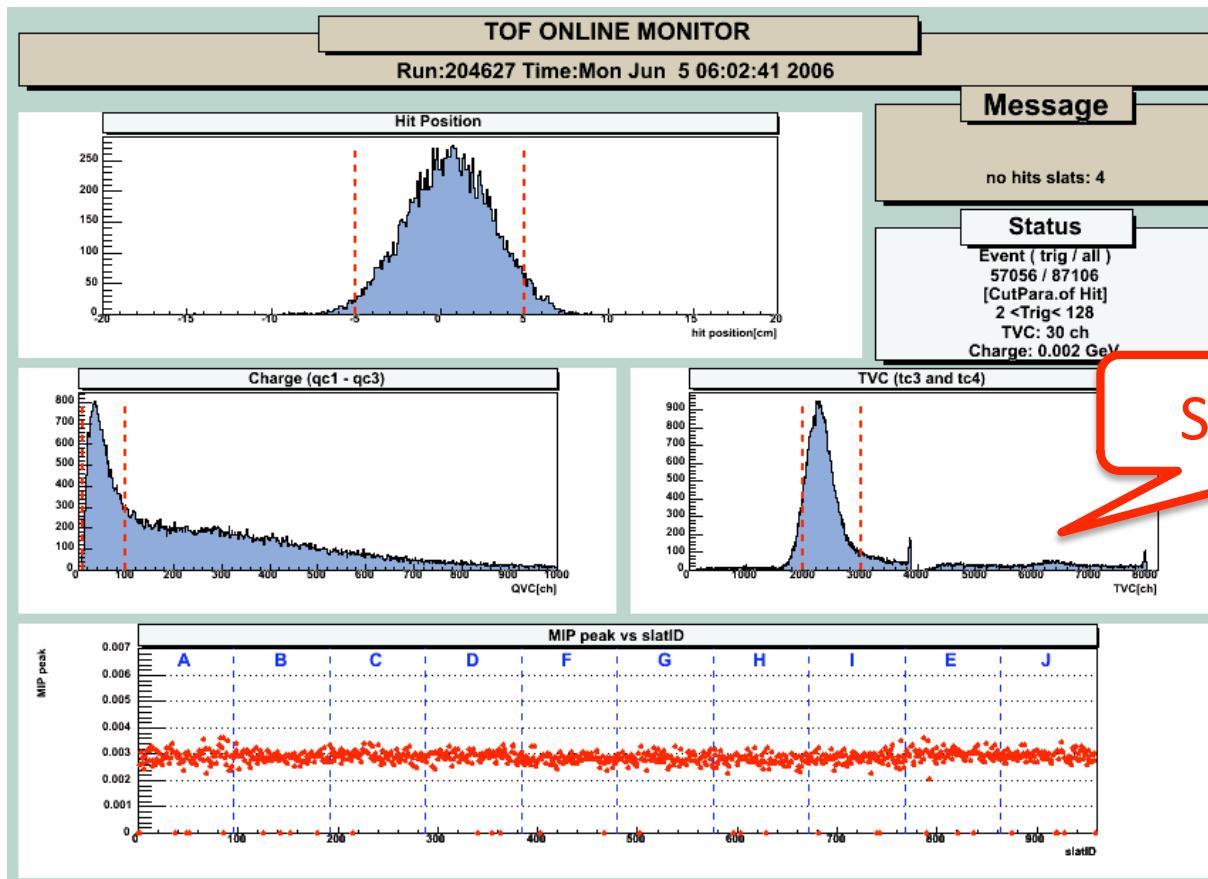
TOF.W online monitor



- TOF.W also have the 2nd peak in TC4.

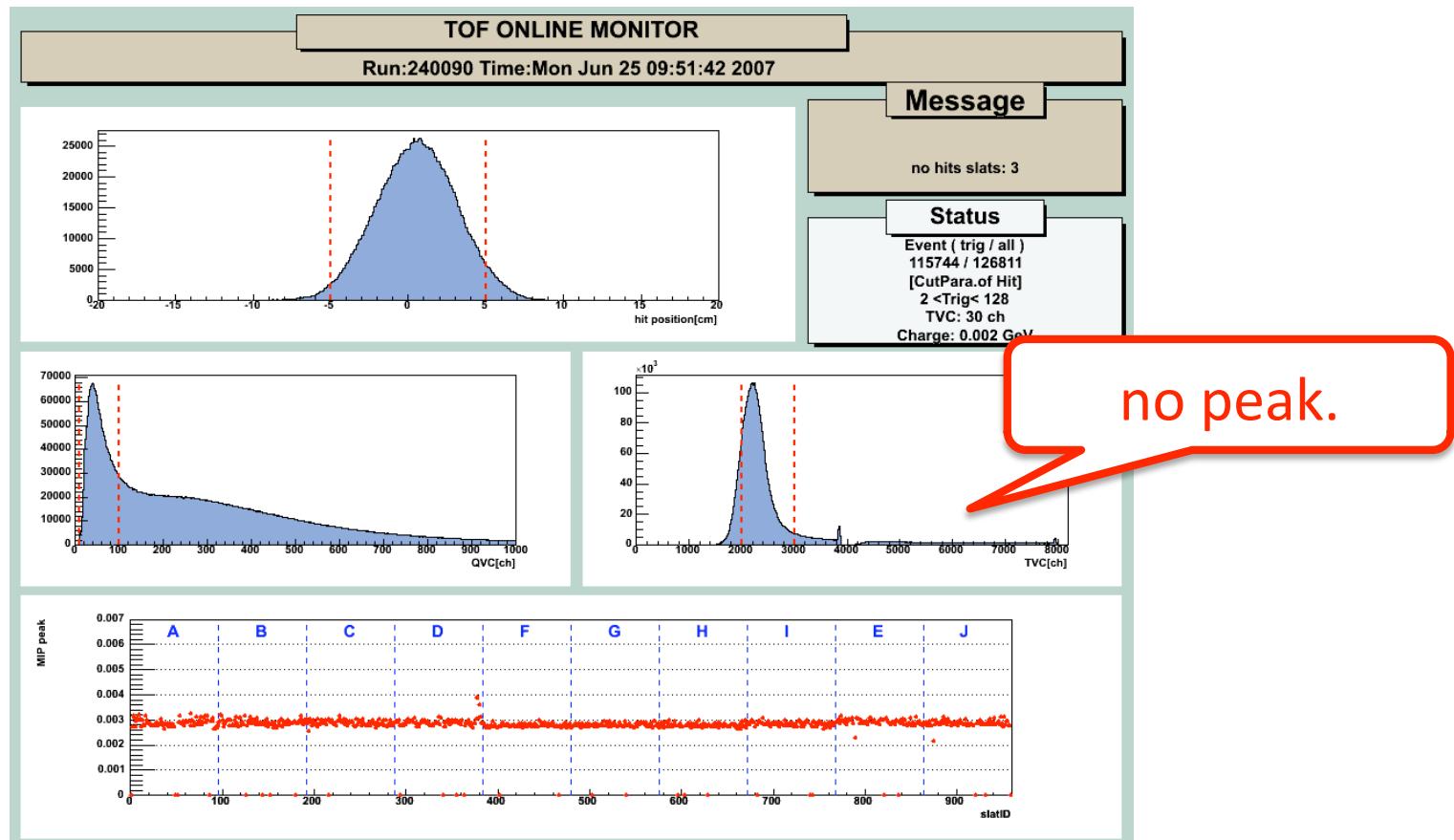
Back Up

Run6(pp) online monitor



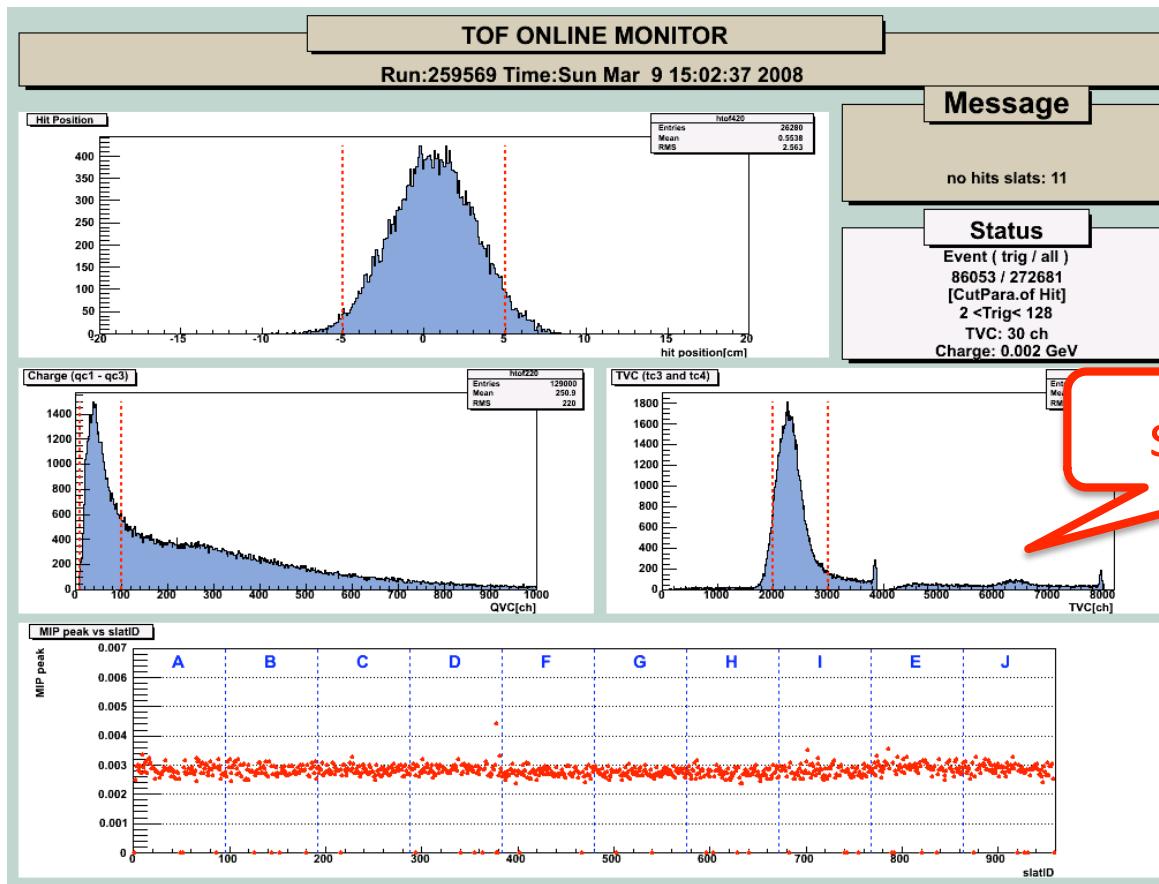
Back Up

Run7(AuAu) online monitor



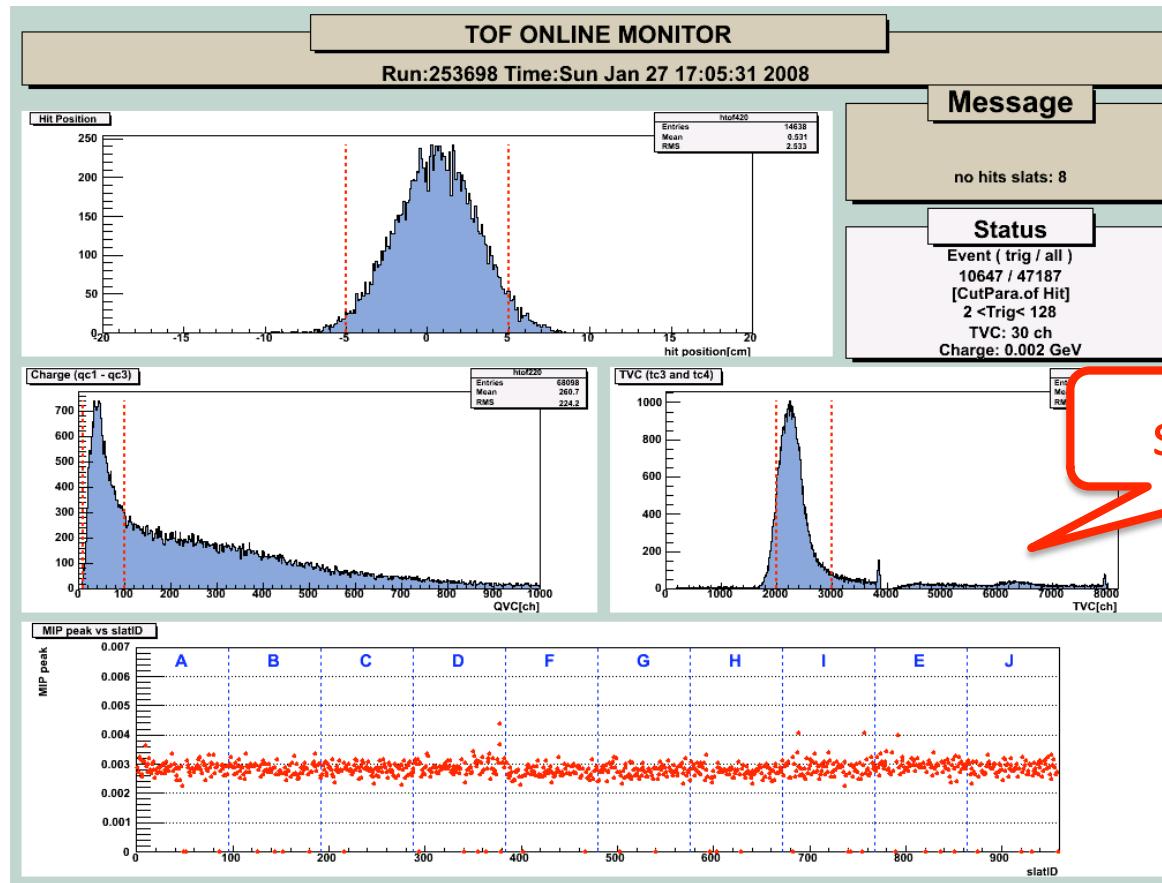
Back Up

Run8(pp) online monitor



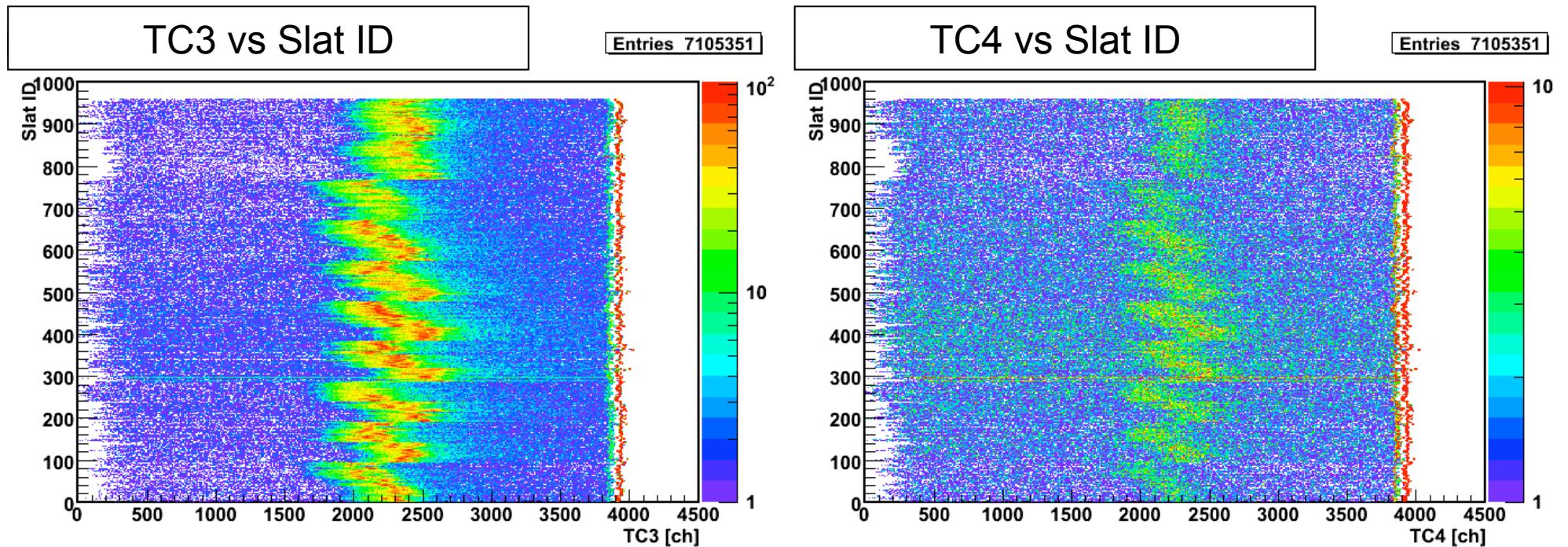
Back Up

Run8(dAu) online monitor



Back Up

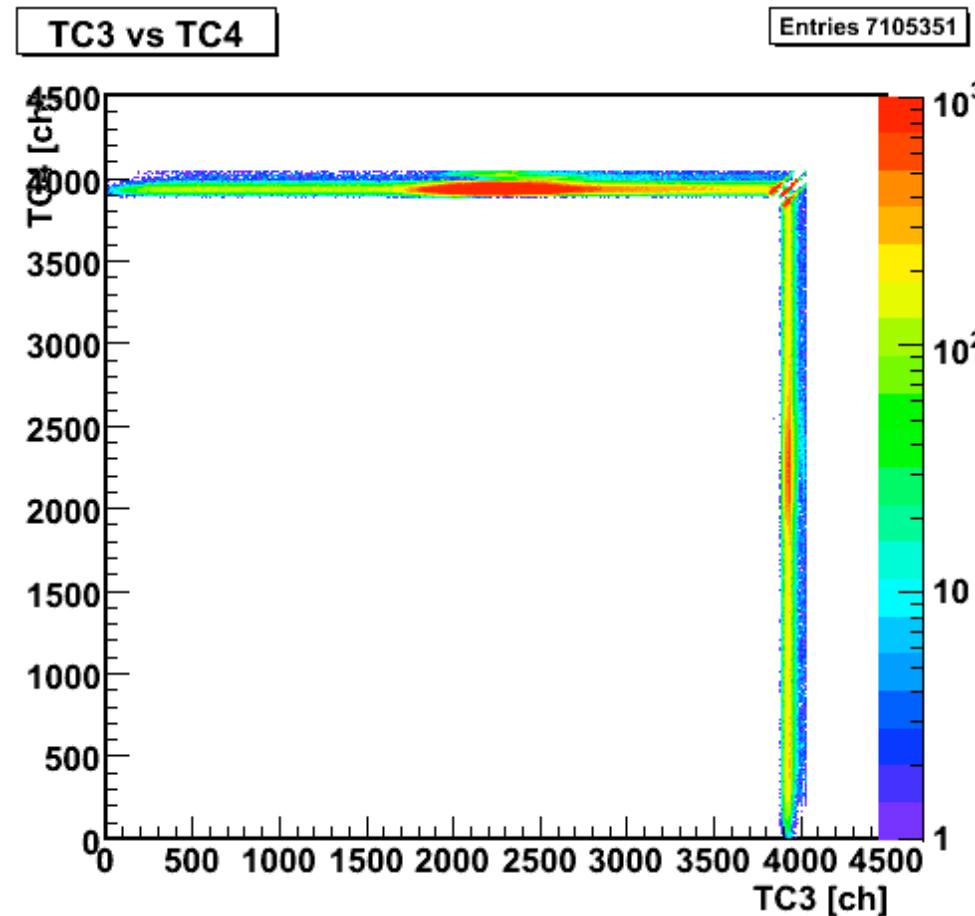
Timing distribution in each slat



- The Peak in the TC4 is seen in all channels.
 - The peak has no correlation with channels, boards and crates.
 - In TOF.W, the 2nd peak is also seen.
 - 2nd peak is not detector effect.

Back Up

Correlation between TC3 and TC4



- There is no correlation between TC3 and TC4.
 - The charge reset of condenser for TVC seems to be done correctly.